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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,668	12/16/2003	Dov Moran	246/234	2836

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EXAMINER

NORRIS, JEREMY C

ART UNIT

PAPER NUMBER

2841

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,668

Applicant(s)

MORAN, DOV

Examiner

Jeremy C. Norris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,204,915 (Persegol).

Persegol discloses, referring primarily to figure 2, an electronic module (10), comprising; electronic circuitry (12); first connection mechanism (15), operationally connected to said electronic circuitry, for mounting of the electronic module by a first method; and a second connection mechanism (13), operationally connected to said electronic circuitry, for mounting of the electronic module by a second method different from said first method [**claim 1**], wherein said first method is robotic mounting and said second method is manual mounting [**claim 2**], wherein said first connection mechanism is directly operationally connected to said electronic circuitry [**claim 3**], wherein said second connection mechanism is directly operationally connected to said electronic circuitry [**claim 4**], wherein said second connection mechanism is directly operationally connected to said electronic circuitry [**claim 6**].

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Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,222,259 (Park).

Park discloses, referring primarily to figure 10, an electronic module (30), comprising; electronic circuitry (not shown); first connection mechanism (100), operationally connected to said electronic circuitry, for mounting of the electronic module by a first method; and a second connection mechanism (140, 150), operationally connected to said electronic circuitry, for mounting of the electronic module by a second method different from said first method [**claim 1**], wherein said first method is robotic mounting and said second method is manual mounting [**claim 2**], wherein said first connection mechanism is directly operationally connected to said electronic circuitry [**claim 3**], wherein said second connection is operationally connected to said electronic circuitry via said first mechanism connection mechanism [**claim 5**].

Alternately, Park discloses, referring primarily to figure 10, an electronic module (30), comprising; electronic circuitry (not shown); first connection mechanism (140, 150), operationally connected to said electronic circuitry, for mounting of the electronic module by a first method; and a second connection mechanism (100), operationally connected to said electronic circuitry, for mounting of the electronic module by a second method different from said first method [**claim 1**], wherein said second connection mechanism is directly operationally connected to said electronic circuitry [**claim 6**], wherein said second connection is operationally connected to said electronic circuitry via said first mechanism connection mechanism [**claim 7**].

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by US 6,483,718 (Hashimoto).

Hashimoto discloses, referring primarily to figures 4 and 5, an electronic module, comprising; electronic circuitry (not shown but located on semiconductor device 10); first connection mechanism (240), operationally connected to said electronic circuitry, for mounting of the electronic module by a first method; and a second connection mechanism (250), operationally connected to said electronic circuitry, for mounting of the electronic module by a second method different from said first method [**claim 1**].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of US 5,873,512 (Bielick).

Hashimoto discloses the claimed invention as described above except Hashimoto does not specifically state that the first connection mechanism includes at least one substantially hemispherical solder ball [**claim 8**]. However, Hashimoto does generically teach that the projections 240 may comprise bumps (see col. 11, lines 60-65) and it is well known in the art to comprise electrical connection bumps of hemispherical solder balls as evidenced by Bielick (see col. 5, lines 5-15). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to use hemi-spherical solder balls as the projections in the invention of Hashimoto as is known in the art and evidenced by Bielick. The motivation for doing so would have been to use a known material and shape to provide a reliable electromechanical connection. Furthermore, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Moreover, it has been held that more than a mere change of form is necessary for patentability. *Span-Deck, Inc v. Fab-con, Inc.* (CA 8, 1982) 215 USPQ 835.

Additionally, the modified invention of Hashimoto teaches, wherein said second connection mechanism includes at least one electrically conducting pad (see col. 11, lines 65-68) [**claim 9**], wherein said at least one solder ball and said at least one pad are like in number (see col. 11, lines 35-68) [**claim 10**], further comprising: for each said solder ball, and for a respective said pad, a respective wire (232) operationally connecting said each solder ball to said respective pad [**claim 11**], wherein said second

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connection mechanism includes at least one electrically conducting pad (see col. 11, lines 60-65) [**claim 12**],

Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persegol in view of US 5,045,381 (Suzuki).

Persegol discloses the claimed invention as described above except Persegol does not specifically state an electrically insulating body whereon said electronic circuitry, said first connection mechanism and said second connection mechanism are mounted [**claim 13**]. Instead, Persegol generically states that the electronic circuitry and the first and second connectors may comprise a printed circuit (see col. 4, lines 5-20). It is well known to the ordinarily skilled artisan to form a printed circuit on an insulating layer as a means of support as evidenced by Suzuki (see col. 12, lines 10-20 and figures 1-3). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to form the printed circuit of Persegol on an electrically insulating body as is known in the art and evidenced by Suzuki. The motivation for doing so would have been to provide physical support while avoiding unwanted shorting. Additionally, the modified invention of Persegol teaches wherein both said first connection mechanism and said second connection mechanism are mounted on a common side of said body (see fig. 7) [**claim 14**].

Response to Arguments

Applicant's arguments with respect to claims 1-4 have been considered but are moot in view of the new ground(s) of rejection. Examiner notes that although the

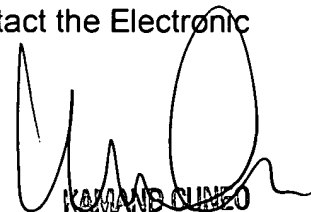
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Hashimoto reference was previously used in a rejection, a new interpretation has been laid out with the instant rejections, thus making Applicants' previous arguments moot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KAMAND CUNEO
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